

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9, 11-14, 18-27, 29-31 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohata et al. (US 6469978) in view of Sasaki (US 2003/0033475) further considered with Tobita et al. (US 6275436).

In regard to claim 1, Ohata et al. teaches a method for an optical recording device to background format an optical recording medium, the optical recording medium comprising a plurality of defect management areas (DMAs) arranged sequentially, each of the DMAs comprising a data area (DA) and a spare area (SA) (fig. 2 see also column 7 lines 20-24 where Ohata discusses a plurality of zones), each of the DAs and each of the SAs comprising a plurality of packets to record digital data, each of the packets comprising a plurality of blocks, each block having a corresponding address for distinguishing (column 7 lines 30-35), the background formatting method comprising the following steps: (A) establishing a format recording table and storing the format recording table in a memory in the optical recording device (fig. 3. In regard to the memory see fig. 13 element 7); however, Ohata et al. does not teach the format recording table comprising a plurality of flags to record whether the packets in the DMAs are recorded with digital data when formatting a certain packet in the optical

recording medium by a predetermined formatting process, inspecting the corresponding flag in the format recording table; if the corresponding flag indicates that there is no digital data in the current packet, starting formatting, otherwise skipping the current packet and formatting the next packet; and (C) repeating step (B) for all the packets in the optical recording medium.

Sasaki teaches when formatting a certain packet in the optical recording medium by a predetermined formatting process, inspecting the format recording table; if the table indicates that there is no digital data in the current packet, starting formatting, otherwise skipping the current packet and formatting the next packet; and (C) repeating step (B) for all the packets in the optical recording medium (see background of invention paragraph 12 lines 2-4) wherein before formatting the optical recording medium is finished, if the host computer transmits the data reading command to the optical recording device, the optical recording device inspects the corresponding unit, according to the address in the data reading command, to judge whether the packet in the optical recording medium has not been formatted and not recorded any digital data, then transmits the formatted message to the host computer after judged that the packet has not been formatted and not recorded (see fig. 3 Sasaki teaches interrupting the formatting operation and recording then updating the formatting table. See paragraph 4 where Sasaki et al. teaches a portion can't be written until formatted) but does not teach a table comprising a plurality flags to record whether the packets are recorded with digital data (but does teach information indicating which blocks have information written into them).

The two are analogous art because they both deal with the same field of invention of formatting an optical medium.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of Ohata et al. with the formatting method of Sasaki. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of Ohata et al. with the formatting method of Sasaki because it would provide quicker formatting.

Tobita et al. teaches a table comprising a plurality flags to record whether the packets recorded with digital data (fig. 62 element 3220).

The three are analogous art because they all deal with the same field of invention of recording information on a medium.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of Ohata et al. and Sasaki with the table comprising a plurality of flags of Tobita et al. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of Ohata et al. and Sasaki with the table comprising a plurality of flags of Tobita et al. because it would provide easily readable and accessible information indicating which sectors are used/unused.

In regard to claim 2, Ohata et al. teaches the optical recording device receives a computer command from a host computer, and the optical recording device operates according to the content of the computer command (column 3 lines 40-55).

In regard to claim 3, Sasaki teaches the computer command is chosen from one of the following commands: a formatting command, a data writing command and a data

reading command (column 3 lines 40-55 Ohata discusses read/write and formatting operations).

In regard to claim 4, Ohata et al. teaches the optical recording device comprises an optical pickup head to read/record data in the optical recording medium, and the predetermined formatting process is performed by the optical pickup head writing a formatted information in the packet designated to format in the optical recording medium for identifying (fig. 13 element 3).

In regard to claim 5, Ohata et al. teaches the host computer transmits a formatting command to the optical recording device, the optical recording device performs only a necessary preliminary formatting procedure and then transmits a receiving message to inform the host computer that the formatting command has completely executed (fig. 5).

In regard to claim 6, Ohata et al. teaches the optical recording medium comprises a main table area (MTA) (fig. 3), a pre-gap and a general application area (GAA) (see fig. 2), the necessary preliminary formatting procedure formatting only the MTA, the pre-gap and the GAA to the optical recording medium (see column 10 lines 29-47 where Ohata et al. teaches the operation upon start up of the disc. Ohata et al. teaches formatting the DMA's, a defect management table and a guard area).

In regard to claim 7, see claim 1 rejection above (after receiving a message to format the host computer would finish it).

In regard to claim 8, Tobita et al. teaches wherein every unit of the format recording table corresponds one by one to a packet (the control area in fig. 11 has information regarding all the packets in the medium).

In regard to claim 9, Ohata et al. teaches if the host computer transmits the data writing command to the optical recording device, the optical recording device will record the digital data in the corresponding packet, according to the address in the data writing command, in the optical recording medium and record an information that the packet already has digital data on the corresponding unit in the format recording table (Ohata et al. must write data on the medium according to address in the data writing command).

Tobita et al. teaches flags corresponding to the record status of each unit (fig. 62 element 3220).

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In regard to claim 11, Ohata et al. teaches when the optical recording device receives the data reading command, if the packet in the optical recording medium is confirmed as not formatted and not recorded with any digital data, the optical recording device will not drive the optical recording device to read data and will directly transmit the formatted message to the host computer (if nothing is written in a data area the optical recording device won't read it).

Tobita et al. teaches flags corresponding to the record status of each unit (fig. 62 element 3220).

In regard to claim 12, Ohata et al. teaches the memory comprises a plurality of memory units numbered sequentially, the units in the format recording table correspond to some memory units stored in the memory (fig. 15).

Tobita et al. teaches flags corresponding to the record status of each unit (fig. 62 element 3220).

In regard to claim 13, Tobita et al. teaches each of the recording units stores a writing flag to show whether the corresponding packet has recorded digital data (fig. 62 element 3220).

In regard to claim 14, Tobita et al. teaches the memory capacity of each recording unit is one bit; the writing flag with 0 means the corresponding block records no digital data, while the writing flag with 1 means the corresponding block records digital data (fig. 62 element 3220).

In regard to claims 18, Ohata et al. teaches the optical recording medium is a CD-RW (Compact Disk ReWritable) or a DVD+RW (Digital Versatile Disk plus ReWritable) (column 3 lines 30-31 Ohata et al. teaches the use of a rewriteable optical recording medium).

Apparatus claims 19-27, 29-31 and 34 are drawn to the apparatus corresponding to the method of using same as claimed in claims 1-9, 11-13 and 18. Therefore apparatus claims 19-34 correspond to method claims 1-9, 11-13 and 18, and are rejected for the same reasons of obviousness as used above.

Claims 16 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohata et al. in view of Sasaki further considered with Tobita et al. and Evans et al. (US 6311060).

In regard to claim 16 Ohata et al., Sasaki and Tobita et al. teach all the elements of claim 16 except wherein after the optical recording device has background formatted the whole optical recording medium, the optical recording device deletes the format recording table from the memory to release the memory capacity.

Evans et al. teaches deleting unused information to free up memory space (column 30 lines 46-50).

The four are analogous art because they deal with memory management in information systems.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of Ohata et al., Sasaki and Tobita et al. with the memory management of Evans et al. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of Ohata et al., Sasaki and Tobita et al. with the memory management of Evans et al. because it would allow memory to free up more space when information is not being used.

Claims 17 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohata et al. in view of Sasaki further considered with Tobita et al. and Official Notice.

Ohata et al., Sasaki and Tobita et al. teach all the elements of claims 17 and 33 except wherein the memory is DRAM. The examiner takes Official Notice that DRAM is

a well known form of memory and it would have been obvious to use this form of memory because of its affordability over other forms of RAM.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohata et al. in view of Sasaki further considered with Tobita et al. and Nakatani et al. (US 2002/0114614)

Nakatani et al. teaches a two bit writing flag (paragraph 86 lines 12-16).

The four are analogous art because they both deal with the same field of invention of recording onto an optical medium.

At the time of invention it would have been obvious to one ordinary skill in the art to provide the apparatus of Ohata et al., Sasaki and Tobita et al. with the flag of Nakatani et al. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of Ohata et al., Sasaki and Tobita et al. with the flag of Nakatani et al. because the flag of Nakatani et al. would make memory access quicker.

While Nakatani et al. does not teach these exact values, it would have been obvious to modify the values of Nakatani et al. to the claimed values because they are recognized alternatives in the art.

Response to Arguments

Applicant's arguments filed 2/14/08 have been fully considered but they are not persuasive. Applicant argues on page 3 paragraph 4, Sasaki et al. does not teach "anything about inspecting the corresponding flag, according to the address in the data reading command as recited in claim 1". The examiner maintains this rejection because

the examiner never states that Sasaki et al. teaches anything about a flag, only a format recording table. Applicant goes on to argue in paragraph 4 "Moreover, FIG. 3 of Sasaki also does not teach 'judging whether the packet in the optical recording medium has not been formatted and not recorded any digital data'". However the examiner maintains this rejection because it is quite clear from paragraph 11 the FDCB teaches a table that has information on whether or not an area is formatted and unrecorded. It is shown in paragraph 4 that an area cannot be written on until it has been formatted; therefore, the apparatus of Sasaki et al. could not write on an area until it has been judged to be unrecorded and formatted.

On page 3, paragraph 5, applicant argues that there is no transmitting an unformatted message to the host computer. The examiner maintains this rejection because there must be some message to the host computer to let it know the area is formatted.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH HALEY whose telephone number is (571)272-0574. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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